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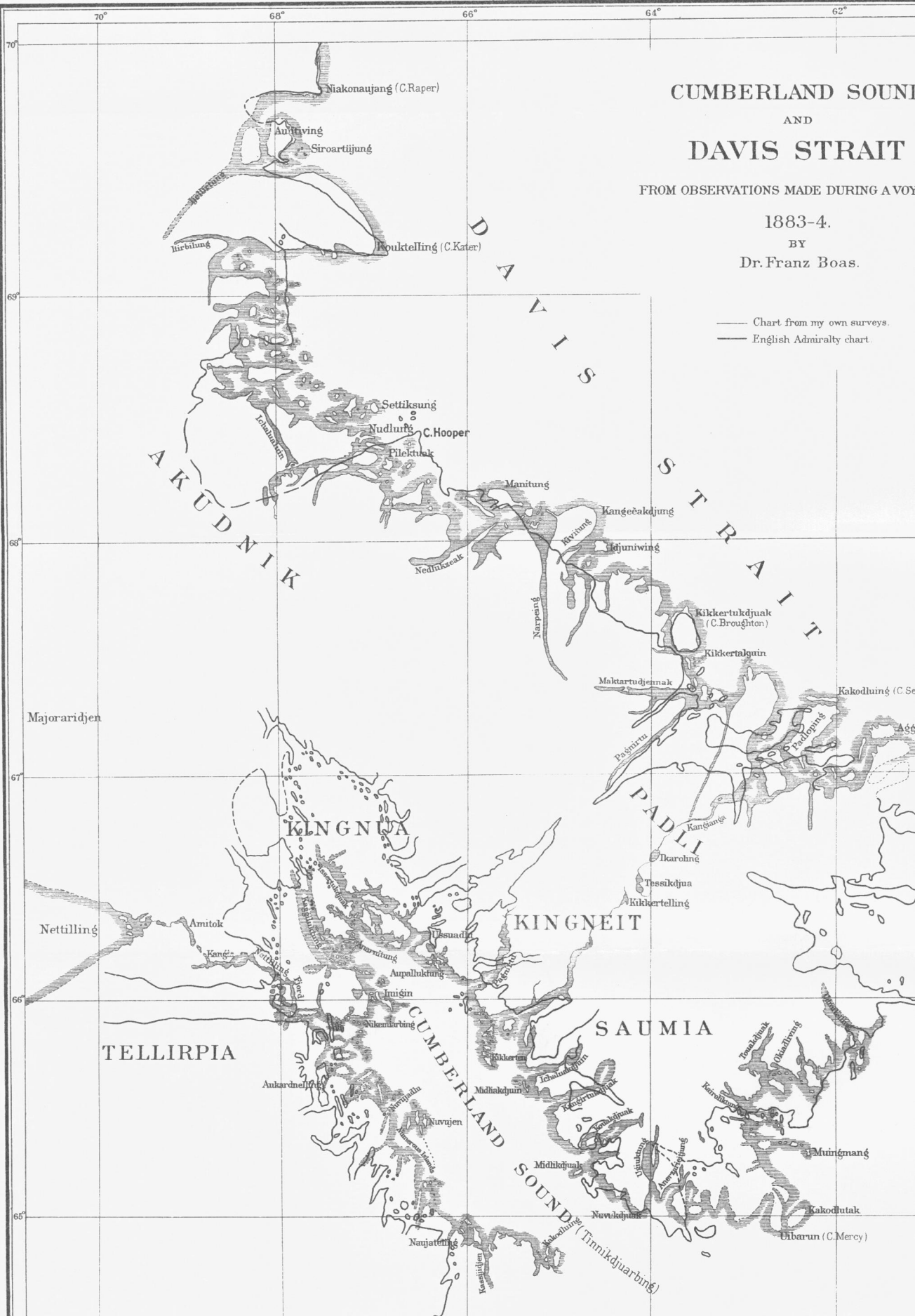
A JOURNEY IN CUMBERLAND SOUND
AND ON THE
WEST SHORE OF DAVIS STRAIT IN 1883 AND 1884.
BY
DR. FRANZ BOAS.

After the famous Northwest passage was accomplished by McClure, the fate of the disastrous Franklin expedition ascertained by Rae, McClintock, Hall and Schwatka, the discoveries in the Arctic American archipelago came to a sudden pause, though most parts of these ice-encumbered regions are unknown, and even their outlines are not yet properly delineated.

Besides the southwest shore of Melville sound and the upper part of Jones sound, the largest space, which has never yet been visited by any man of science, is the east shore of Fox channel.

In summer, 1883, I left Germany, intending to survey this part of the country ; but on account of an outbreak of a dog's disease in Cumberland sound, which destroyed very nearly all the dogs in the Esquimaux settlements, I was prevented from carrying out my intentions.

I was able, however, to survey Cumberland sound, which was laid down in the charts from the miserably poor accounts of Scotch and American whalers, and a large part of Davis strait, especially the unknown Home bay and part of the inland west of Cumberland sound. A comparison between the chart accompanying this sketch and the old Admiralty chart will show how poor our knowledge is of even the most frequently visited parts of the Arctic





AND

FROM OBSERVATIONS MADE DURING A VOY

BY

Dr. Franz Boas.

—— Chart from my own surveys.
 ——— English Admiralty chart.



CUMBERLAND SOUND

AND

DAVIS STRAIT

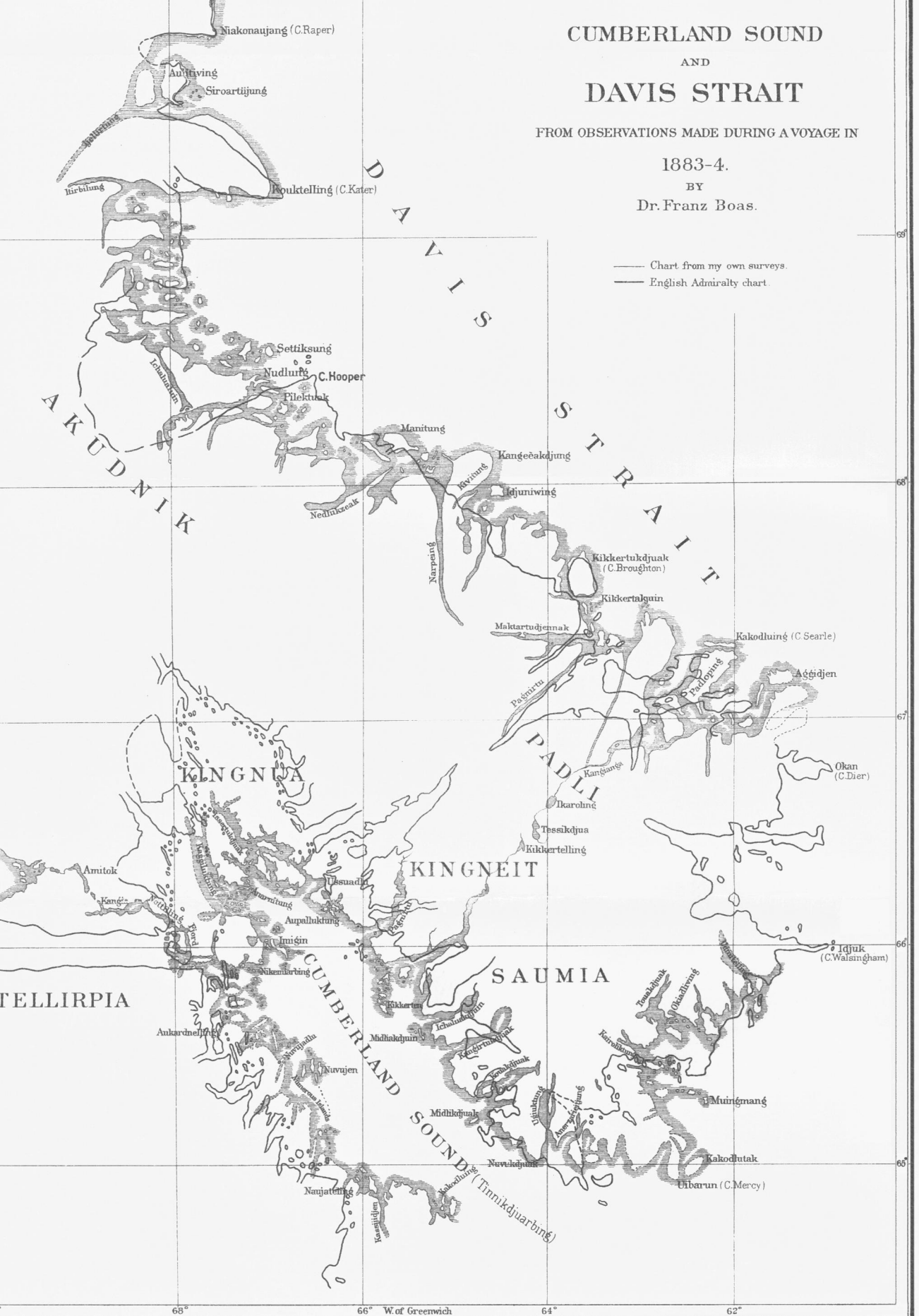
FROM OBSERVATIONS MADE DURING A VOYAGE IN

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regions, how much work there is left in these lands, which might be surveyed at a comparatively small cost.

The west shore of Davis strait is formed by one large island, mostly called Baffin land, though many other names are applied to parts of it, as it was often considered to be a large group of islands. It is separated from the American continent by the narrow Fury and Herla-strait, which was discovered by Parry in 1822, later visited by Hall. Farther southeast a shallow beach prevents vessels from approaching the low land, which extends to very near King's cape, the southwest point of Baffin land. The north shore of Hudson strait is higher and forms some pretty large inlets, the westernmost, Sarbak, is situated between King's cape, Sikosuliar of the Esquimaux, and Winter's Furnace of Baffin, called by the natives Toodnikten. The old Meta incognita of Queen Elizabeth, a high land covered with ice and sending down numerous glaciers, forms the south shore of Frobisher bay, which was surveyed by C. F. Hall, the late commander of the *Polaris* expedition, in 1860-62. The Esquimaux call Meta incognita Kignait, which means the higher land—compared to the one between Frobisher bay, Tinnikdjuarbiossirn and Cumberland sound—Tinnikdjuarbing. The steep edge of this plateau is indented by numerous fjords, and many islands are scattered along the shore. Between Nuvujadlu and Anarnitung the land is lowest, the outside hills being not higher than 400' and the plateau sloping down to a plain of about 50' height. The Cumberland peninsula consists of three mountain ranges. The northernmost is limited by the line from Nudlung in Home bay to Kingnua and the deep valley between the two

Pagnirtu of Cumberland sound and Davis strait. It slopes down to the hilly land of Kingnua and Kaggiluktung, which becomes a plain farther west. The second smaller highland is situated between Pagnirtu and the fjords of Kignait and Padli, the third one forming the rest of the peninsula. North of Nudlung the mountain ranges become more narrow; many of the long fjords reaching here the low hilly land situated west of the highlands. A great number of small lakes and long rivers are found in this country and the westernmore plains. Between Cumberland sound and Hudson strait two immense basins of fresh water, Netilling and Agmakdjua, occupy a great part of the country. In the old charts is marked a lake Kennedy, but as the shape and position is very wrong, and indeed there are two lakes, I prefer to adopt the native names instead of the English one. The lake Agmakdjua empties by a short river into Netilling, which sends its water by the river Koukdjua into Fox channel.

These are the principal features of the country as I found them by my own explorations, the old charts and reports from the natives.

It was in 1839, when the enterprising Capt. William Penny, on the lookout for a new whaling ground, rediscovered Cumberland sound. Though he tried to keep the discovery to himself, he was very soon followed by other whalers. His chart was published in 1840 by the English Admiralty, under the title "From the observations of Capt. Penny, and from the information of an intelligent Esquimaux." During the following years the sound was visited by numerous whalers, who became accustomed to

stay there in winter-time, as before the breaking up of the ice the whales came up the sound. In boat and sledge-journeys they used to travel all over the country and many a one was acquainted with it as well as with the shores of his own land. The charts, however, received only little benefit from all these explorations, as very few of the explorers would have been able to take good observations or survey properly their own harbor and its neighborhood. The newest charts bore only a small resemblance to the true outlines of the country.

However, in connection with the whaling, Charles F. Hall made his first journey to the Arctic regions and surveyed Frobisher bay, which was considered up to his time a strait leading into Winter's Furnace (Toodnikten). During two years he surveyed in sledge and boat journeys the shores of Frobisher, Field and Grinnell bay. Since the old expeditions of Ross and Parry and the Franklin search this was the first scientific work done in Davis strait. Hall here gained a good deal of his experience in Arctic travelling, which made him the guide for many a future expedition.

Amongst the ships frequenting Cumberland sound that of a Philadelphia mica company brought valuable ethnographical information from the west shore of the sound.

In 1877 the *Florence*, ship of Howgate's "Preliminary Arctic Expedition," wintered in Anarnitung,* a harbor near the head of the sound. The principal purpose of this expedition was to obtain a sufficient number of Esquimaux

*Not Anannatu, as is printed in the charts and reports. The name is applied for a great number of walrus islands. It is derived from anak—excrements, and means a place where there are many excrements, the reason being that the walrus' excrements are found in great quantities.

dogs and skins for the planned Arctic station in Lady Franklin bay. Besides, the captain of the expedition, G. Tyson, was instructed to try to cover the expenses by whaling. Two scientists, T. O. Sherman and L. Kumlien, accompanied the expedition. Sherman succeeded in making, under the most uncomfortable circumstances, a great series of physical observations; Kumlien brought back valuable specimens. Especially his collection of birds shows the most thorough attention to his work. The ethnographical report, however, most probably owing to his small knowledge of the language and false information by the whalers, is not very trustworthy. Sherman's astronomical observations place a few points of the sound more correctly than it was done before. Explorations, however, were not made in connection with the expedition, as Sherman could not and Kumlien did not leave the vessel for surveying purposes.

In 1882 one of the German polar stations was established according to the international plan in Cumberland sound, with instructions to its leader to erect the station as far north as possible. Though the passage into the northernmost fjord of Cumberland sound, Issurtukdjuak, is very difficult, the schooner *Germania*, which had carried in '69-'70 the German polar expedition to East Greenland, succeeded in entering the fjord and the station was established at Kingnua, the head of Cumberland sound, in a small bay called Sirmilling, and was in action in the beginning of September. The schooner returned home, intending to leave again in June, '83, to fetch back the members of the station.

Such was the state of affairs when I resolved to spend a winter in Cumberland sound for exploring purposes. On

my request the German Polar Commission gave me every assistance for the work I intended to do, granting me a passage on board of the *Germania*, the use of the houses of the station and a good supply of provisions, hunting-gear and some instruments. Besides, Mr. Noble, from Aberdeen, and Messrs. Williams & Co., from New London, who sustain whaling stations in Kikkerton, Cumberland sound, promised me every help in their power, and it is with the greatest pleasure, I state here, that it was only their kindness which enabled me to accomplish a great part of the work I did.

Before leaving I intended to stay in the houses of the German station in Issurtukdjuak (Kingnua). By unfavorable circumstances, however, I was compelled to give up this intention, and found a home in the hospitable house of Mr. Noble.

His agent, Mr. James Mutch, who has wintered seventeen times in the Cumberland sound, was a most welcome and willing help to me in my long and tedious conversations with the Esquimaux, until I was myself able to talk to them. It was with his dogs and sledges that I made a great number of my journeys; by his help I managed to get my skin clothing ready in time to start the winter travelling. In short, in every way I am indebted to the liberal aid of these gentlemen. I also wish to offer my thanks to Capt. Roach, of the schooner *Lizzie P. Simmonds*, who wintered in the sound.

All the preparations being finished, myself and my servant, Wilhelm Weike, left Hamburg on board of the *Germania* the 20th of June, 1883. The 28th we passed Pentland firth, and in a heavy gale from the northeast entered Davis strait the 9th of July. In a few days we

had crossed it, but were stopped about 200 miles off Cape Mercy, the south point of Cumberland peninsula, by a heavy pack which filled the western half of the strait. In vain we attempted to force a passage to the north or south shore of the sound; the ice was so closely packed that scarcely a spot of water could be discerned amongst the heavy floes and innumerable icebergs. From the 15th of July, when we met with the pack, to the 10th of August, there was no change in the state of the ice. Then it began to grow less; we approached Cape Mercy to about fifteen miles, but were stopped again. At last, the 25th of August, the pack loosened, and with a light easterly wind we entered the gulf, where we found open water.

The 28th, when it cleared up after a thick fog, we sighted the Kikkerton islands, and at noon had a boat of the Scotch whaling station alongside the ship. In the afternoon we anchored in Kikkerton harbor, lat. $65^{\circ} 43'$. There was no chance for the ship to reach the head of the gulf, where the party at the station awaited us, for the prevailing southerly winds had forced up the pack to the very head of the sound. In July, after the breaking up of the winter floe, the American whaler, the schooner *Lizzie P. Simmonds*, had left Kikkerton harbor, but was caught by the pack ice and compelled to go north to escape from being beset. In the latter end of July, the pack ice had reached the entrance of Kingnua fjord,* and even passed its tide races. So the schooner, which was forced up by the ice, and the German

* Kingnua, its head, is called the whole country at the head of Cumberland sound. In asking the natives, where is Kingnua? they will always answer, farther up, as indeed there is no single place of this name, which is only applied for the whole country. The fjord, called on the charts Kingawa, or better, Kingnua, has the name Issurtukdjuak; the bay, where the German station stands, Sirmilling, *i. e.*, a place with a glacier.

station, were both locked up in the small space of Issurtukdjuak.

A few days after our arrival at Kikkerton, a native boat was able to come through the passages between the large islands down from Kingnua to Kikkerton. The natives brought a letter to us from Captain Roach, the master of the schooner *Lizzie P. Simmonds*, and Dr. Giese, the commander of the German station, who had been expecting the arrival of the *Germania*. They reported the head of the gulf to be full of ice, and that they had encountered great difficulties in coming down to Kikkerton.

As the captain of the *Germania* was anxious to notify the station of his arrival, I started, September the 4th, with the natives who had just come and were willing to go back with me in their boat to the station. Though we had some very narrow escapes from being beset by the ice, and had to make a good number of roundabout journeys, as the passages were locked up, we succeeded in arriving at the station by September the 7th. The entrance of the fjord was still filled by the pack ice. The southerly winds prevented it from spreading over the gulf, but it was most probable that with a change of the weather and the longed-for setting in of a northerly wind, the passage would be free. However, as it is impossible for a sailing vessel to pass the narrows leading into Issurtukdjuak with a head wind, it was to be feared that the *Germania* might reach the harbor Sirmilling, where the German station was put up the year before, too late in the season. So it was decided that the party at the station should return to Kikkerton on board of the *Lizzie P. Simmonds*, which expected to leave as soon as the passage became clear.

I set out with the message to return to Kikkerton myself

in the boat with the Esquimaux. The second day of the journey a northerly gale sprung up, which brought the ice very quickly down the sound, and threatened to fill the Kikkerton harbor, which is open to the northwest.

By a few days after this the Kingnua station was shipped, and the schooner could return to Kikkerton, where meanwhile the brig *Catherine*, of Peterhead, had arrived to bring provisions for the American and Scotch stations, and also to take home the oils and skins collected during the last two years. The 14th of September the members of the German station, on board the *Germania*, left the harbor, homeward bound, and the 25th, the brig, which intended to bring back a number of casks with seal oil put up on Warham's island (Middlikdjuak), fifty miles southeast of Kikkerton, during the spring whaling. I accepted an invitation of the captain to go down with him. As there is no shelter near Middlikdjuak, and a heavy sea prevented the ship from approaching the island, the captain had to keep at sea for a few days, when, with a southerly gale, we saw a huge mass of ice coming up. To avoid this, we escaped to Naujateling* harbor, on the west shore of the sound, where we stopped two days. The weather now being better, the captain tried once more to go to the island to take the oil on board, but scarcely had we left the harbor, when, under the influence of a strong breeze with squalls, a heavy sea rose. We now saw the ice which had driven us into the harbor a few days ago. It was a berg of about 20 to 30 feet high, seven miles long and three miles wide. As there was danger that the pack ice would come up the sound again, and new ice was forming rapidly in the bays and on

* Not Niatilic, as is printed in the old charts; the name is derived from Nauja—sea gull.

the rocks, the captain was obliged to leave after all without securing the oil. We left the ship near the Middliakdjuin islands, where we slept one night and returned in a boat to Kikkerton next day.

Meanwhile most of the natives, who had been deer-hunting during the summer, returned to the places of their winter settlements. A great number of the Kikkerton natives had been at the head of the Kignait fjord, which runs northeast from Kikkerton, and these were the first to return. Those who had been in Kingnua and south of Kignait came back later in the season. When we returned from Warham's island, there were only the natives left, who had been deer-hunting at Lake Netilling,* the large basin west of the gulf. This is the best resort for the natives in summer time. The Esquimaux of the west shore, especially of Nikemiarbing, travel up in their sledges in May, and do not return until the latter part of November, when the sea and the lake are frozen up again. In olden times they used to stop at the lake throughout the year. The Kikkerton natives from the east shore cross the sound in their boats and make a shorter stay at the lake. They leave in the middle of July and return some time in October.

As there are a great many deer in the plains of Netilling they are able to bring back a large stock of skins, which

* In olden times, before the number of the natives was as low as it is now, there were three tribes, the Tellirpingmiut, the Kingnuamiut, and the Kignaitmiut. It is scarcely possible to distinguish them now. The Tellirpingmiut of Nikemiarbing used to travel as far as Fox channel and to the country Major-aridjen, north of Netiuing. The name Netiuing means some country inhabited by seals. Though there are seals in the lake up to this day, they seem to have been more abundant some time ago, enabling people to live near the lake in winter as well as in summer. The last natives whom I know to have spent a winter inland, were three men and their families, in 1877-78, when the *Florence* wintered in Anairtung.

they trade to the white men, and to their own friends. Though I was very anxious to secure skins for our clothing, I had no chance to obtain any from the natives who had been hunting in Kignait.

I wished to secure an Esquimaux to accompany me, but as the whalers are in the habit of engaging the best natives for their work, I should have had some difficulty in finding a good man if Capt. Roach had not kindly offered me one of his, with whom I agreed that he should travel with me anywhere between Padli, on Davis strait, and Netilling, west of Cumberland sound. In exchange he was to get a gun and ammunition. He proved a good and trustworthy companion in all my numerous journeys, and was willing to do any work, and we separated only when I left the sound to go north.

In the month of October I surveyed the Fjord Pagnirtu, north of Kignait and part of the shore farther north. In three days we got to the head of the fjord. I intended to go as far north as American harbor (Ussuadlu), but as on the road I met the natives who were returning from Netilling, I preferred to go back at once to Kikkerton to secure deer skins.

After having bought a sufficient number, I started to visit the Fjord Ichaluakdjuin (Salmon fjord of the whalers), south of Kignait.

In the latter part of October there are frequent gales in Cumberland sound, and we were most unfortunately surprised by one of them in this fjord. The snow squalls which blew down the steep mountains made the sea foam, and very nearly filled and upset the boat. The water froze on the boat as it dashed over, so that the little vessel was soon almost imbedded in heavy ice, and only by the hardest

work could we keep her afloat and reach the shore. Here we were compelled to remain four days, until the storm began to abate.

The 26th of October we reached Kikkerton again, and we were just in time only, as two days after the harbor was frozen up. The 30th the natives began to go sealing on the ice. They travel with their guns to the edge of the new-formed floe and shoot the seals, which they secure with the harpoon from a piece of floating ice. They have to look out for every change of wind, as it happens very often that they go adrift, with the ice setting off shore. During the time I was detained at Kikkerton, I spent the days surveying the shores of the islands, which form a large group off the mouth of Kignait fjord, and in making tidal observations.

Now I began in earnest to make my ethnographical studies, and was greatly helped by Mr. Mutch, of the Scotch station. Every night I spent with the natives who told me about the configuration of the land, about their travels, etc. They related the old stories handed over to them by their ancestors, sang the old songs after the old monotonous tunes, and I saw them playing the old games, with which they shorten the long, dark winter nights. In the month of November I had gathered sufficient information about the configuration of the country to form a more accurate plan of exploration.

I was very much disappointed to learn that all the information I had received in Europe was worth nothing. Principally from the reports of Hall and Kumlien I concluded that the Cumberland sound natives travelled far westward every year, visiting the shore of Fox channel. In the journal of Hall's second expedition (edited by Nourse) a

chart is published drawn by a native from Igluling, which represents the east shore of Fox channel. Hall's explanation to this chart state that the Igluling Esquimaux travel with sledges along the shore and go as far as Koukdjuak, the river running down from Netilling, where they are said to have intercourse with the Cumberland sound Esquimaux. Hall tells about a story of four boats' crews leaving Cumberland sound and being starved on Ipiuting, a low neck of land connecting a large peninsula on Fox channel with the mainland. My inquiries about this fact amongst the Cumberland sound Esquimaux, led me to the following results :

About seventy years ago two women, Amarak and Sige-riak, started with their husbands and some more men from Netilling, to visit the land Aggo.*

Three years they stayed with the strangers; then they became wearied of it and returned to Tinnikdjuarbing (Cumberland sound). They told wonderful stories about the land Piling, where there was abundance of deer, walrus and seals. About fifty years ago their tales induced three boats' crews, amongst them Hannah's—the woman of *Polaris* fame—sister, to visit this rich country; but as they did not know the resorts of the game and the way of hunting on the shallow beaches, they were starved on Ipiuting. The Cumberland sound natives have a song about this sad event, the contents of which say that the false reports about Piling was the cause of the starvation of the men. When I inquired how the natives had learned about the fate of their old countrymen, I was surprised to find the news coming from Davis strait by the Akudnirmiut. The fact was, the

* Ipiuting is the line connecting the dog's harness with the bridle. It is used for very low and narrow isthmuses, as they resemble a string connecting two large bodies of land.

Iglulingmiut had found the starved crews, who had killed and eaten each other. Perhaps a few escaped from the horrors of that place and afterwards told the story to the Iglulingmiut, who cross on three ways Baffin land, visiting Tudnunirossirnt (Admiralty inlet), Eclipse sound and Dexterity bay (Anaulerielling). The Tudnunirmiut of Eclipse sound visit the Akudnirmiut of Davis strait, who cross Cumberland peninsula often to see the Okomiut. This was the way the news had reached Cumberland sound. None of the Okomiut had ever seen the place where the crews were starved, or knew the land where they intended to go.

Afterwards, when I travelled all over the sound and visited all the settlements of the country, I saw quite a number of old men and women who remembered the old time thoroughly, when they were more numerous and no white men visited their land, when they hunted the whale and pursued the deer with bow and arrow only.

By their help I filled up the lacunæ of my knowledge and learned about the old wanderings of these tribes.

The Tellirpingmiut, the inhabitants of the west shore, sometimes lived all the year round on lake Netilling, but quite a number lived in the entrance of Netilling fjord also. In May they used to travel inland with their dogs and sledges. At Kangia (*i. e.*, the upper part of the fjord), a small bay, where they leave the salt water, they had left their umiaks and kajaks (boats) in the preceding winter. Travelling inland they lashed the boats on the top of their sledges and crossed the ice of the vast lake. After a hard and tedious journey they reached Koukdjua, the western outlet of the lake, where they stopped until the breaking up of the ice. Then the men descended the river in their kajaks, followed the shore until they came to another large river,

which they went up into the land Majoraridjeu, north of Netilling. In its numerous ponds they caught the deer, whose skins they carried along with them until they reached Netilling at Kagmong on the northwest shore of the lake. Here the women and the old men, who had crossed the lake in the boats, awaited them, and they stayed somewhere on the shores of it until the ice forced them back to Issoa, the most western portion of the lake.*

At the present time, however, this tribe has its summer's residence at Tikerakdjuak on the south shore of the lake, near the mouth of the river running down from Agmakdjua, and they see only seldom the shores of Fox channel whilst deer-hunting.

From the reports furnished to me in Europe I had been of the opinion that the Cumberland sound natives were in the habit of travelling to and fro on the shores of Fox channel, and I intended to survey this land by their help. However, there was not one man who knew anything about the country; only two men of seventy or eighty years of age had travelled in their kajaks from Koukdjua to the river of Majoraridjen, a distance of about forty miles. Only one Esquimaux of Cumberland sound knew Igluling in Fury and Hecla strait, the place I wished to visit, by

* The shores of Baffin land, from Cumberland sound to Prince Regent's inlet, are inhabited by three large tribes, the Okomiut, the Akudnirmiut and the Aggomiut, *i. e.*, the inhabitants of the lee side, the centre and the weather side. Oko is Cumberland sound and Davis strait as far as Padli, Akudnirn from Padli to Akbirtijung (Eglinton fjord) the rest Aggo. The Aggomiut consist of two tribes, the Tudnunirmiut of Eclipse sound and the Tudnunirossirmiut of Admiralty inlet, the Iglulingmiut and Sednirmiut are considered a separate tribe. Formerly the Okomiut were divided into four tribes, the Tel-lirpingmiut of the west shore of Cumberland sound, the Kingnuamint of the head of it, the Kignaitmiut of the east shore of the sound and the Saumingmiut of Davis strait.

name. He was born in Pond's bay and heard about Igluling when he lived there.

I hoped, however, to be able to accomplish my journey if I could induce a native to accompany me and another to go along with me to the west shore of Netilling, from whence it is one day's journey to Fox channel. In Nikemiaring, the winter settlement of the Tellirpingmiut, I hoped to find natives willing to accompany me, and a sufficient number of dogs to make two good teams. I intended to start in February and expected to reach Igluling about two months later.

But there was one thing left, which spoiled all my plans, and very nearly detained me for good in Kikkerton. In the fall of 1883 the dogs' disease, the horror of the Esquimaux of Cumberland sound and Greenland, spread at an awful rate over every settlement. No team was spared, and in December about one-half of all the dogs had died. By this most unhappy mischance I could not manage to secure a dog team. Natives who had been willing in the fall to sell dogs to me had scarcely enough left to draw their own sledges, and it was only by the help of Mr. Mutch that I could travel at all. Throughout the winter he lent me his dogs to start from Kikkerton for the other settlements. Still I hoped the dogs of the Tellirpingmiut, who had lived inland, might have been spared. In December, however, I learned how greatly I was mistaken in this hope. By this time the ice had consolidated, and on the 9th of December the first sledges arrived in Kikkerton. They were two Tellirpingmiut with their wives and children, who had left two days before Nikemiaring, an island in Netilling fjord, where their tribe had settled. They had lived at Kangia up to the last days of November, and

had shifted to the entrance of Netilling fjord only then. They came to Kikkerton to ask for dogs, as they had lost so great a number of their own as to be unable to bring their deer-skins and household goods down from Issoa to Nikemiarbing, a distance of about one hundred miles. They reported the Gulf to be frozen up as far as Imigen and Umenak (66°).

I resolved at once to leave Kikkerton to survey the northern part of the east shore of the gulf. As there were no dogs to be obtained, I asked Mr. Mutch for his, to carry me to Aupalluktung, an island north of Pagnirtu, from whence I intended to travel up as far as Anarnitung, where the *Florence* had wintered, 1877-1878. As the snow was hard, I intended to take a small sledge with me on which we were to carry the necessary implements, guns, lamps, provisions and sleeping bags. The 11th of December we started with the thermometer 40° below zero, one native, my servant and myself. The same night we arrived on the mainland opposite to Aupalluktung and built a snow-house. While the native went sealing at the water-holes formed by the strong tides in the narrows of the bay inside Aupalluktung, I busied myself in surveying the islands. Slowly we shifted north, always building new snow-houses wherever we halted. The 14th it suddenly became warmer and a heavy snowfall covered the ice with about two feet of soft snow. It was impossible to travel faster than three miles a day, though we worked as hard as possible, and at last we were compelled to stop near Ussuadlu (American harbor). I had arranged with Mr. Mutch that his sledge was to return to bring some fresh supplies. By the heavy snow, however, the sledge was detained for a few days and in the meanwhile we were

pretty hard up. By the severe cold a spring in one of our guns broke and the cartridges of the other were spent, so there was no chance of getting a seal which would furnish our lamp with a fresh supply of blubber. We had to stop with the thermometer at F-55° in the cold snow-house with no chance to melt ice for drinking or cooking anything. As this state of affairs could not last any longer, I resolved to leave everything and to travel to the next settlement, Anarnitung, which was distant about twenty miles. The 21st of December we started with a bright moon. Five o'clock in the morning we had left the snow-house, travelled up along the numerous islands of the east shore, and were about to cross to Anarnitung about twelve o'clock, when a thick fog came up. At half past twelve the sun set; it grew dark, but no land was to be seen. The ice we had to pass was very rough, slabs of one to two feet thickness being piled up on one another to more than man's height. The holes between the pieces were filled up with soft snow, and we were obliged to crawl and stumble over the projecting points and edges of the slabs. The compass was of no use to us as I did not know the position of the settlement, and we had to follow the native, who pretended to know his place exactly. About seven o'clock in the evening we heard the howling of a dog team and changed our course in the direction of the noise, but we did not find any sign of the land. At last we heard the cracking of the ground ice and reached the land about ten o'clock at night. It is very difficult to recognize any part of this country, and now in the deep and dark night, in the thick fog, it proved impossible. A number of grounded icebergs we mistook for islands, and so our guide did not know at all where we were. All the night we kept roaming over a

small space, comparatively free of snow, to keep ourselves warm. My servant, poor fellow, had frozen his feet in the evening while crossing the rough ice, and could only walk with great difficulty. When the moon rose the fog began to clear up, and by two o'clock we were on the road again looking eagerly for sledge tracks. At last I found one and we followed it. But our bad luck was not yet at an end; we took the wrong direction and arrived by five o'clock at the water holes in the entrance of Issurtukdjuar, the northernmost fjord of the sound. We had to turn, and at last we arrived in the morning in Anarnitung after a walk of twenty-five hours, tired and hungry. We crawled into the snow-house of one of the natives, and in less than no time we were asleep in the comfortable bed of deer skins. A few hours after our arrival a sledge came in from Kikkerton, which had been delayed by the heavy snow and arrived at Ussuadlu half a day after we left. The next day I began to survey the mouth of Kingnua, but had to return to Anarnitung, as my servant's feet grew very bad and he only told me then that he had frozen his feet. I left him in the snow-hut with the Esquimaux and went back myself to Kikkerton for provisions the 24th. After a long and tedious drive we arrived at Kikkerton, where I was heartily welcomed by Mr. Mutch. Two days I stopped here, we spent a merry Christmas, and back I went to Anarnitung, whence I surveyed the shores of the head of the gulf. The 3d of January, this year, when I travelled up the fjord Kaggiluktung, west of Anarnitung, I was overcome by a snow-storm which at last forced me back to Anarnitung, where my Esquimaux found his wife very sick. He was unable to accompany me any longer and as I could not procure another dog team there I had to leave. My servant was

now able to be brought back to Kikkerton, where he stopped all the winter. All the travelling I did until May I did alone.

Meanwhile a most disagreeable feeling had risen between the Esquimaux of Imigen, a settlement on the west shore of the gulf, and myself. In the fall there occurred a case of diphtheria on Kikkerton, and since that date this fearful disease, hitherto unknown amongst the Esquimaux, made its way all over the gulf, sweeping away a great number of children. The Esquimaux medicine-men were busy investigating on the raging disease. One of them found out that my presence had brought this evil upon them and that they could only escape it by denying me any intercourse with them. As soon as I heard about this, I visited the settlement and told the men that every trade between myself and them would stop until they would invite me into their huts, and even if I saw them in a starving condition I would not give them a piece of bread. This had the desired effect, for one of them asked me to stop with him, and sometime afterwards the others came to Kikkerton to regain my good will by presenting me with a few seal skins.

In January I was preparing for the journey westward. One Esquimaux of Kikkerton was to accompany me all the way, another man of Nikemiarbing, who was well acquainted with the lake, was willing to travel along with me a great part of the way, a third one of Anarnitung was to provide me with seals in the meanwhile. One dog team I was to get at Nikemiarbing, the other from Anarnitung. In January I had to procure seals for dogs' food, as I could not depend upon the deer inland. For this purpose I lived at Anarnitung very nearly a whole month. In Kikkerton

the sealing was very poor throughout the winter; the same it was in Nikemiarbing. I hoped to get a sufficient number of seals at the large water-hole Sarbukdjuak in the entrance of Issurtukdjuak, but by the bad state of the weather the natives could scarcely catch enough for their own subsistence.

Meanwhile the dogs' disease, which had abated in the latter part of December, broke out afresh and swept away most of the dogs spared in the fall. Only two were left of my team at Anarnitung, and when I came to Nike-miarbing to look out if everything was ready for starting to the west, there were not dogs enough left to bring the natives to their sealing ground. By these most unlucky events I was prevented from accomplishing my purposes and I feared that I should be obliged to stay at Kikkerton, unable to move until the ice broke up in July. There was not the slightest chance to procure a dog team—the only means of travelling in the sound—and I only hoped that there might be dogs amongst the Davis strait tribes.

But the time was passed to start for Fox channel, as the distance is too great to be accomplished in two or three months. In the first days of February I knew that there was no dog team to be obtained in Cumberland sound; I could not expect to have dogs from Davis strait until late in April, and I had to be as far north as Lancaster sound in July to meet a whaling ship. So I had to give it up, though very reluctantly, and to confine myself to surveying Davis strait, where I expected to gather most interesting ethnographical information, and where I knew by native report, that the shore did not at all resemble the picture given by the charts.

When in the middle of February a few natives left for

Davis strait, I ordered a dog's team, which I was to buy, to be brought back. I could not go with them myself, as the weight of the trading articles was too heavy for the miserably poor teams they travelled with. Meanwhile I surveyed the southern parts of the gulf with the team of Mr. Mutch, visited the schooner *Lizzie P. Simmonds*, Capt. Roach, who wintered near Naujateling, whence I visited the more southern shore as far as Kakodlung.

I returned to Kikkerton in the first days of March, and there I found two Esquimaux from Okkiadliving in Saumia, the country southeast of Kignait. These men had come to trade bear skins for ammunition and tobacco. They reported that no dogs had died in their settlement and that I should be able to buy a team. There was, however, some difficulty in getting to this place. I could go out with these two men, but I could not carry a sledge with me to come back, nor did I know anybody to go back with me, for the distance is too long for a man to travel alone. But as this was the only chance of getting dogs, I ran the risk and went with these two Esquimaux to their settlement. The Cumberland sound was frozen up southward as far as Nuvukdjuak and the ice was smooth all the way down to Middlikdjuak (Warham's island). Therefore we easily got as far as this, went around Nuvukdjuak by going up the Fjord Kouakdjuak and crossing the land to Ugjuktung. At the head of Anertsariaitjung we left Cumberland sound and crossed, in two days of hard work, the land, reaching Davis strait at the Fjord Kairolikutng, whence we arrived in half a day in the settlement Okkiadliving. As I was the first white man to visit this country, everybody was greatly surprised to see me, but I was very heartily welcomed. I managed to buy ten dogs in three days, one native offered

himself to accompany me to Kikkerton, another lent me his sledge, and I was once more on the road back.

The very day I arrived there the Davis strait natives, who had come over with the ordered dogs, had left to return to Padli. Mr. Mutch had bought five for me, and I had a sufficient team now.

Immediately I started for Netilling, as I wished at least to see the country, which I could not reach in the winter, and the 1st of April I reached the lake.

I intended to survey the west shore of Cumberland sound too, but I was prevented by ceaseless fogs and gales, which blew every day up and down the gulf. Heavy snowfalls made the travelling very bad, and though I kept travelling throughout the month of April, I could not accomplish anything to speak of.

The whaling stations in Kikkerton and Naujaetling prepared now for the spring whaling, which is done at the edge of the floe covering the gulf. At the same time I prepared for leaving the sound altogether and going to Davis strait. The Esquimaux, who had accompanied me all the winter, was to help me to the first settlement of the Padli natives, which was near the head of the large Padli fjord. They knew that I was going to stay with them all summer, and had promised me to help me along with their dogs and sledges.

The 5th of May, the same day, when the Esquimaux belonging to the Scotch whaling station started south to the floe edge, I left Kikkerton with two heavily loaded sledges going up the large Kignait fjord. It was the last time we were to see a white man for the summer. All the following months I had to rely upon my stock I carried on the sledges ; there was no chance of getting a fresh supply,

as I always did in winter time, returning to the station on Kikkerton. The sun was now very strong. We could not build snow-houses any longer, but had to live in a small canvas tent I carried with me. The winter clothing was needed no longer, the young sealskin clothing now being fully warm enough. When we got to the narrow gorge at the head of Kignait, we were surprised to find the snow wasted and the ice melting very quickly. In Kikkerton there had not been a drop of water two days ago and here there was any quantity of it. It was only with the greatest difficulty we managed to get to the river running down through a narrow valley. Here we found a native who came from Padli, and was going back again with a light sledge. He brought notice of my being on the road to the settlement ; and we moved on slowly, expecting the Padilmiut to come up for my help.

The natives who had visited Padli in March had reported that the road was very bad ; that the land was very nearly clear of snow and that the sledge would have to be carried over high rocks. As the sun was very strong then, the ice of the river, on which we travelled, melted quickly ; in the night a thin cover of ice was formed on the top of it, through which the sledges broke very often. So we had the greatest difficulty in getting on. About two miles south of the lake Kikkertelling the road is leading through a narrow gorge, called Torgnatelling, which is filled with immense boulders. There was not a particle of snow left, and it was impossible to take all my instruments and provisions. I had to leave everything that could be spared, as we had to carry every single box for about two miles. In two days we managed to reach Kikkertelling, about thirteen miles northeast of the end of Kignait fjord, working hard

throughout day and night. My provisions were reduced to ninety-five pounds of bread, thirty-six pounds of mutton, twelve pounds of butter and an ample supply of coffee, tea, and condensed soups, which were to last for two men, or even more, until I could get on board of one of the whaling ships visiting Davis strait in the summer. Besides I had about thirty pounds of tobacco, caps, powder and lead for trading purposes. Those barterers were of prime importance, as I had to rely on meat, which I was to procure from the natives. It happened only a few times in the course of the journey, that I was unable to get any seal or deer meat, and though I did not carry any provisions to speak of with me, we were usually provided well enough. The next place we reached was Lake Tessikdjua, and there we found the road better, as we travelled in the wide valley through which a large river runs down to Padli. Eleven days we were crossing the land. From Kignait I had taken a few seals with me for dogs' food. The last of them, however, was devoured by the voracious teams on the ice of Tessikdjua and we were only saved from hunger by meeting some deer near Ikaroling. The 18th of May we arrived at Kangianga, the head of Padli fjord. Here we fell in with a sledge, which was going to come up to our help, but returned, as it was too late, to the settlement, about fifteen miles farther down the fjord. I intended to go back from here to Torgnatelling, where I had left my boxes; we found, however, the ice of the Padli river, so rotten in these few days that it was impossible to travel on it with sledges. So I had to give it up and to make the best of the small stock I carried with me.

The 22d of May I finally reached Padloping, on Davis strait, at the mouth of the Padli fjord, where a few natives

lived. Hence I surveyed the islands and bays of the large fjord, and engaged an Esquimaux to accompany me to the settlement Kikkertakdjuin, near Cape Broughton. In the following month I shifted in the same way from one settlement to the other, always stopping a few days to survey the fjords of the neighborhood.

On most parts of the shore the travelling was very poor. In the fjords the ice was smooth enough ; heavy falls of snow, however, made the work for the dogs dreadfully hard. I used to start travelling in the night, when the snow was frozen on the top. As soon as the sun rose higher, the thin covering melted and dogs and sledge sunk into the snow. Besides, the state of the weather was very bad. Every other day thick fog enveloped the whole country and prevented me from travelling, as I had to see the shores I wished to survey. The 16th of June we arrived in the settlement Idjuniwing, near Cape Hooper of the whalers. As there are always ships here in August, I resolved to put up my tent here to try to get on board of a vessel in the fall.

As the natives go in the summer to the small bay Tessiujang opposite to the island, to a place they call Kivitung, I left the island again and put up my tent on this place. I had resolved to leave everything here and to go on with a light sledge. The state of the ice was getting worse day by day. The snow, which had become hard under the influence of the gales in the winter, softened now. It was impossible to ice the runners of the sledges, which in this way slide much easier. Everything was wet with the melting snow, and it was almost impossible to move on with heavy loads on long distances.

An Esquimaux party, which was going north to see a friend who lived at Niakonaujang (Cape Raper), and myself

started the 20th of June to cross Home bay. I sealed my tent, hoping that the natives would not touch it. In a few days we arrived at Nudlung, where the Esquimaux with their wives stopped, to go deer-hunting, until I returned. Another man who was in the company, my servant and myself, left to visit the settlement of Niakonaujang. In three days we arrived at Kouktelling, where we were detained by a snowstorm; five days thick fog and heavy gales prevailed. We had no food, neither for the dogs nor for ourselves, and I was going to kill some dogs for food, when it suddenly cleared up. We had tried to cross the land in the storm, but had lost the road and had to descend the steep hills on the north shore of Kouktelling. The 3d of July we reached the sea again. A few hours after we had caught a seal and fed the famished dogs. In the evening, when we passed the small islands Siroarteejung, the dogs scented the track of a man. Very soon we saw the footprints and one lonely hut on the small island. Here we learned that the natives of Niakonaujang, all but this man, had gone inland to the head of a long fjord in river Clyde. It was too late in the season to go any farther north. I was in a continuous fear that the heavy gales might break up the ice. Wide cracks ran from Niakonaujang to Aulitiving and Kouktelling, In Home bay we were sometimes unable to cross a crack for forty miles. Water was forming on the top of the ice; for all these reasons and the positive want of food, I was obliged, though reluctantly, to return to Kivitung.

The gale in the first days of July was followed by a few fine and warm days, which made the snow melt at a very quick rate. On places, where we had travelled a few days ago without scarcely any trouble, we found now a

sea of fresh water, formed by the melting snow. All the ice between Kouktelling and Nudlung was covered with three to four feet of fresh water and looked like a vast blue sea. Into every crack near the shores, or running from point to point, the water rushed in streams, which wear down the ice in a few days, the breathing-holes of the seals swallowed it and formed dangerous whirlpools. Mostly we had to travel through the water, often dogs and sledges swam through it—it was the most uncomfortable and the most hungry season I had experienced during the whole year. At last we arrived at the head of the large fjord near Nudlung, where the Esquimaux and his wives had caught an ample supply of salmon and deer, and in a few days my dogs and ourselves had recovered. We went to Kivitung, travelling close inshore, to avoid the dangerous cracks and the ice covered with water. Near the land it was dry now, as all the water had disappeared through the cracks of the ground-ice. The 20th of July we arrived in Kivitung.

I found my tent safe, and during a few days we enjoyed recruiting ourselves with the provisions I had left here a month before. During the following days most of the natives had gathered in Kivitung, where I spent the last month of my stay in the Arctic. It was impossible now to leave the place for any longer distance, as the ice might break up any day.

I longed to see a ship, as in the first days of August my provisions were exhausted and very little of my barter was left. Often I ascended the hill of Kivitung, which is about 1,400' high, to look out for a ship. Nothing was to be seen, but the vast white desert. I could not detect the smallest spot of water on the horizon, the fixed land floe extended about 30 miles offshore. With a heavy gale on

the 3d of August it was reduced to about 25 miles in width. The pack ice cleared away very soon and for the first time we saw the water. With the numerous gales the floe edge came nearer; the 19th of August, however, it was yet more than 12 miles from Kangeekdjung. A lane of water had opened, running into Idjuniving. That day a ship was seen by the natives, the *Arctic*, a Dundee whaler. We tried hard to get on board, but just as we came near it a thick fog covered the floe edge and the ship was lost to us. This was a bitter disappointment, but a few days later two ships more were seen, which we managed to reach, though we had to travel over about five miles of pack ice.

We were welcomed most heartily and each of the captains offered us most hospitably the home journey. As the ship *Wolf*, of St. Johns, Capt. Burnett, was going to leave the next day, we accepted his invitation. We left the 28th of August, called into Exeter bay, where we stayed some days, and arrived in St. Johns the 7th of September.

Though I was not able to accomplish the journey I had intended to make, I think, the results of my researches are worth the work and the time I spent on them. In the chart accompanying this brief sketch the red lines show the old outlines of the land, the black ones the configuration from my own surveys. In Cumberland sound there was a very rough resemblance between the shores and the old chart, as some of the fjords, at least, were marked down, though in a wrong shape. The real shape of the gulf is very different from the one given to it up to this date. We learned about this fact some years ago by Mr. Sherman, and last year by the German expedition, who, however, only fixed a few points. The outlines of Issurtukdjuak, where the German station was, are very approximate only, as I

did not survey it myself, and the observations of the station are not yet published. Cape Mercy I could not visit, as there is no ice. The whole of the shore of Davis strait was only made by passing it in a distance of more than twenty miles ; therefore, none of the numerous fjords, which are mostly blocked up by islands, were known. From Cape Hooper to Cape Broughton one straight line represented the shore, which is indented by long fjords and large bights. The old Home bay is almost swept away. The foundations of my chart are some sixty astronomical observations, a great number of magnetical bearings and an itinerary which I used to keep up as accurately as possible. The distances travelled I learned to estimate by a long practice on measured distances, and by knowing the different gaits of my dogs.

Besides the mere geographical work, which took most of my time, I made ethnographical collections and observations, which give many new points of view referring to the religious ideas and traditions of the Esquimaux. As I learned the language of this people, I was able to understand the old songs and tales, which are handed down from their ancestors ; as I lived amongst them as one of them, I learned their habits and ways, I saw their customs referring to birth and death, their feasts, etc.

The seven tribes of Baffin land, which were formerly considered only one or two, widely differ from each other. They form the connection between the Labrador tribes, the inhabitants of Smith sound and of the west shore of Hudson bay. Therefore, their habits and traditions are of a prime importance for our knowledge of the origin and the migrations of the Esquimaux. Our knowledge of the religious ideas and traditions is mostly derived from the Greenlanders

and Labradorians, who, under the influence of the missionaries and the steady contact with the Europeans, have forgotten a good deal of the interesting knowledge they had in olden times. A more thorough investigation upon the western Esquimaux and the hitherto unknown tribes of the centre of the north shore of America, connected with those of Labrador, Baffin land, Smith sound and Greenland will be required to settle the pending question about the origin and the migrations of the widespread Esquimaux.